

Serial No. 10/735,504

Docket No. 129234-1

AMENDMENTS TO THE SPECIFICATIONRECEIVED  
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JAN 16 2007

Please replace paragraph [0011] with the following:

Referring generally to Figs. 1 and 2, embodiments of the invention address the needs described above by providing a stator component 20 for a turbine assembly 40. The stator component 20 comprises an annular base component 60 which, in certain embodiments, comprises at least one of a shroud, a turbine casing, and an annular assembly of turbine nozzles. The base component has an inner surface 80 that is substantially circular 90 in axial cross-section 100; and a coating 120 disposed on the inner surface 80 of base component 60. The coating 120 has an interfacial surface 140 in contact with the inner surface 80 of the base component 60 and an outer surface 160 opposite the interfacial surface 140. Coating 120 has a thickness 180 that varies as a function of circumferential position along the inner surface 80 of the base component 60, and as a result the shape of the outer surface 160 of coating 120 departs from the circular shape of the base component 60 to more closely conform to eccentricities in the motion of the rotor, thereby providing the tightest possible clearances during service. Embodiments of the invention allow parts to be machined round and on-center, and it is the coating 120 that provides the desired non-uniform rotor-stator clearance during assembly and operation.

Please replace paragraph [0012] with the following:

Experience with certain types of turbomachinery has revealed that in many cases the rotor 400 tends to follow an elliptical path of travel. Accordingly, to better conform clearances to this condition, in some embodiments of the present invention the outer surface 160 of the coating 120 is substantially an ellipse 220 in axial cross-section 100. The elliptical shape of the coating outer surface 160 is achieved by disposing a coating having a maximum thickness at the peripheral position where clearances are desired to be smallest (i.e., regions, such as region 240, for example, on opposite sides of the minor axis 260 of the ellipse) and a minimum thickness in areas needing the maximum clearance (i.e., regions on opposite sides of major axis 280). In certain embodiments, the base component 60 420 comprises a top portion 300 and a bottom portion 320 that are joined together by a horizontal joint 260, and the ellipse formed by the outer surface 160 of the coating has a major axis 280 running between the top portion 300 and bottom portion 320. Although conventional approaches as described above often machine a circular stator to the desirable elliptical shape, or assemble a complex, multi-segmented stator to achieve an elliptical shape, the application of a coating as described herein offers significant advantages in cost and simplicity.

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Please replace paragraph [0015] with the following:

In order to take full advantage of the features described above, a further embodiment of the present invention is a stator component 20 for a turbine assembly 40. The stator component 20 comprises an annular base component 60 having an inner surface 80 that is substantially circular 90 in axial cross-section 100; and a coating 120 comprising an abradable material. Coating 120 is disposed on the inner surface 80 of the base component 60 and has an interfacial surface 140 in contact with the inner surface 80 of the base component 60 and an outer surface 160 opposite the interfacial surface 140. The outer surface 160 of the coating 120 is substantially an ellipse 220 in axial cross-section 100 having a major axis 280 running between top 300 and bottom 320 portions of the base component 60.

Please replace paragraph [0016] with the following:

Other embodiments of the present invention include a method for making a stator component 20 for a turbine assembly 40. The method comprises providing an annular base component 60 having an inner surface 80 that is substantially circular 90 in axial cross-section 100, and disposing a coating 120 in the inner surface 80 of base component 60. The coating 120 has an interfacial surface 140 in contact with the inner surface 80 of base component 60 and an outer surface 160 opposite the interfacial surface 140. Coating 120 has a thickness 180 that varies as a function of circumferential position along the inner surface 80 of base component 60.